

ABSTRACT OF THE DISCLOSURE

A substrate with a transparent conductive film is provided, which has a high work function and an excellent surface smoothness as well as a reduced specific resistance to thereby ensure a reduced power consumption and enhanced display quality. An ITO film 2 is formed on a glass substrate 1 by an ion plating method by using an ITO sintered compact with an SnO₂ content of 4 to 6 wt%. The ITO film 2 obtained as above has a surface having a work function of 4.9 to 5.5 eV, a surface roughness of 1 to 10 nm, and a specific resistance of $1.6 \times 10^{-4} \Omega \cdot \text{cm}$ or less. An organic EL device using the substrate is provided, in which an organic multilayer film (hole transport layer 5, light-emitting layer 7, and electron transport layer 6) is laminated on the surface of the ITO film 2, and further a metal thin film layer 4 is laminated on the surface of the organic multilayer film.